Executive Summary

Effects of Hurricane Katrina on the Aerospace Industry in Louisiana, Mississippi, and Alabama

Summary: While Hurricane Katrina devastated significant portions of the oil producing infrastructure, it has had a minimal effect on the aerospace industry both regionally and in the United States as a whole. The only national impact is that the next flight of the space shuttle may have to be delayed as the external fuel tank modification/assembly point was damaged.

Long-Term Infrastructure Impediments: The rail lines used to deliver external solid rocket boosters to the Space Shuttle were destroyed. They can probably be rerouted in a more circuitous route to get to the Kennedy Space Center or barged across the Gulf of Mexico.

JP5/JP4/Aviation Gasoline Production: ExxonMobil's Baton Rouge plant is dedicated to variants of jet fuels. While the plant suffered no damage, there has been a problem keeping crude oil flowing to the plant in order to keep it at full capacity. The plant was normally serviced by pipelines from the New Orlean's region but now it is being served by crude oil shipped in by rail. There have not been any reports of jet fuel shortages.

Aerospace Team actions here in Washington:

Our office has contacted all of the trade associations such as the American Helicopter Society, General Aviation Manufacturers Association, Aerospace Industries Association, and major aerospace corporations. Numerous other organizations were contacted and they are noted in the detailed report.

OAAI will continue to stay in close contact with all aerospace firms and will update our assessments of the industry on an as-needed basis.

OAAI will stay in close contact with other departments and agencies to monitor the status of airports, aviation fuel, and any financial or structural repercussions to the aerospace business in the United States.

All members of the Aerospace Team contributed to this report.

Katrina Specifics

Background

- While several major defense contractors have facilities in the area affected by Hurricane Katrina, most of these are not in the aerospace industry. The most significant known damage was flooding and wind damage to the Lockheed Martin external fuel tank assembly plant in Louisiana, which will delay the next space shuttle launch in 2006. There were nine establishments related to aerospace manufacturing in Louisiana in 2002 and none in Mississippi.

- Alabama also has 6,500 employees in aerospace product and parts manufacturing, with a significant concentration in Mobile, where the most flooding occurred. The General Aviation Manufacturer's Association reported that one of its Mobile members, Teledyne Continental, was impacted by power outages and flooding.

- Neither the ports of New Orleans or Mobile are significant exit sites for U.S. aerospace exports, seeing only 1.6 percent and .09 percent of total aerospace exports, respectively. New Orleans is the ninth largest port for aerospace imports; however, its share is still only 4.5 percent of total imports.

Aerospace Production

Commercial

Teledyne Continental's facility in Mobile has had its phone service restored and is assessing the extent of water damage. General Aviation Manufacturers Association (GAMA) was not sure how much production capability was lost as a result of the storm. Teledyne's Mobile plant manufactures piston engines and parts for general aviation aircraft and UAVs.

GAMA is also monitoring the jet and general aviation fuel markets for shortages, though none have been reported so far. Exxon Mobil's plant in Baton Rouge, which supplies aviation fuel, is operating a full capacity.

Though not directly related, GAMA did note that over the past 30 years there has been a strong correlation between GDP growth and general aviation aircraft sales. Specifically, if GDP growth is less than 2-2.5%, orders evaporate. GDP is projected to grow at 1-2% this year. Order books are full through 2007, but GAMA is watching the situation.

Military

Most defense production in the area is in ships and tanks. Facilities for both of these were damaged by the hurricane, but no significant aerospace manufacturing was affected.

Space

Most of the damage to the space sector relates to assembly and testing of space shuttle components. The damage from Katrina likely will cause an additional 2-3 month delay in preparing the shuttle for flight (now in summer 2006).

NASA/Lockheed Martin Michoud External Tank (ET) Assembly Facility (Michoud, LA), 15 miles northeast of New Orleans, assembles external tanks for the space shuttle. The main plant roof was partly damaged, and the vehicle assembly building was more significantly damaged. One of the eight ETs was struck and at least superficially damaged by falling roof debris. Up to 60% of the 2,000 employees' homes were damaged or destroyed. Power may not be restored for weeks, and major ground transportation routes are destroyed or damaged.

Work on the ETs may be shifted to other facilities at Kennedy Space Center. NASA is moving to shift employees to housing near other NASA centers.

Stennis Space Center, MS, 15 miles inland from Bay St. Louis, tests space shuttle engines weekly. The test stands were largely unharmed by wind, but key electrical and propellant line systems may be damaged by water. FEMA has set up a staging area at Stennis to aid other areas of Mississippi.

Textron also has some facilities at Michoud and Stennis Space Center.

Shipping/transfer

Neither New Orleans nor Mobile is a major site for import/export of aerospace products. The port of Mobile handles less than one percent of both imports and exports (.12 percent and .09 percent, respectively). While New Orleans is the ninth largest U.S. port for aerospace imports, its share is only 4.5 percent; aerospace imports are fairly evenly distributed throughout the country.

Major rail lines through the Gulf Coast used to deliver shuttle solid rocket booster segments from ATK Thiokol in Utah to Kennedy Space Center, Florida, were destroyed. As previously discussed, alternate rail routes are available or the boosters can be barged to the Kennedy Space Center.

NASA Michoud ET assembly facility uses a deep-water access port for the transportation of the ETs by barge across the Gulf of Mexico, around Florida and up to Kennedy Space Center.

Airports

Most airports in the region are operating for emergency flights, but many airport facilities are damaged. Limited availability of staff, fuel, power and supplies are hampering operations.

No estimate for total repair costs has yet been developed. Repairs to Louis Armstrong New Orleans International Airport (MSY) have been estimated at $40 million.

Contribution to recovery

Industry

Several commercial airlines and air transportation companies have donated planes and helicopters to aid in relief efforts. Planes have been donated to ferry evacuees out of the affected area. Donated helicopters have been used to rescue evacuees, lift food and supplies, and transporting aid workers.

Many aerospace manufacturers have made cash donations to organizations such as the Red Cross. Several are also matching donations from employees. Some of the companies located in the region have set up funds specifically to help employees that have been displaced by the storm.

Several general aviation groups are recruiting pilots to assist in relief efforts. Many other companies provide direct links to the Red Cross on their web sites.

Military

The Coast Guard and Navy has been heavily involved in rescuing trapped victims from rooftops by helicopter. The Navy is sailing in a helicopter carrier to berth at New Orleans and serve as a major helicopter site. Once access to the power grid is restored from the port, the Navy can also hook up a nuclear submarines generators to the local grid. With nuclear power, the sub can generate enough power to operate several hospitals and emergency transmitters for police and fire.

Actions

1. The Office of Aerospace and Automotive Industries has contacted the following industry associations for comment: Aerospace Industries Association, General Aviation Manufacturers Association, American Helicopter Society, Helicopter Industries Association, Airports Council International, Aeronautical Repair Station Association. Most are still in the process of gathering information from their members. OAAI will continue to monitor their efforts.

2. OAAI plans to directly contact major manufacturers such as Boeing, Lockheed Martin, and Northrop Grumman after assessments are underway.

3. DOT is participating in an around-the-clock air evacuation from New Orleans International Airport. Screeners are in place. The Department of Defense is providing ground operations. Hundreds of federal air marshals were deployed to the Louis Armstrong New Orleans International Airport (MSY) on September 2 to take control of the airport and facilitate operations.

4. Airport Council International's Hurricane Action Group (HAG) has been working since last week in response to Hurricane Katrina, as airports across the country continue to provide support for the communities touched by the storm. HAG continues to help coordinate the relief effort by airports across the country who are responding to requests from Louis Armstrong New Orleans International Airport (MSY) for critical needs, including Law Enforcement Officers (LEOs), communication equipment (satellite phones), fueling personnel, electricians, crews to install the perimeter fence and temporarily patch the roof, safety equipment, airfield/terminal electricians, operations personnel to assist in their Emergency Operations Center (EOC), generators, provisions, fencing materials, cleaning supplies, roofing materials, and others. Roofing crews will need lifts (40' +/-) and operations personnel to relieve existing staff. Similar needs are likely at other airports in the region.

Next steps

Continue to gather information from industry associations and companies.

Additional Information

1. FAA helping out in ATC and airports:
http://www.faa.gov/news/news_story.cfm?type=fact_sheet&year=2005&date=090605

2. FAA's report on status of airports:
http://www.faa.gov/news/hurricane_katrina/

3. AOPA's report on status of airports:
http://www.aopa.org/whatsnew/newsitems/2005/050831katrina-airports.html

4. The American Association of Airport Executives (AAAE) established a "Katrina Airport Assistance Clearinghouse" on the association's website.
http://www.aaae.org/200_spotlight/index.html